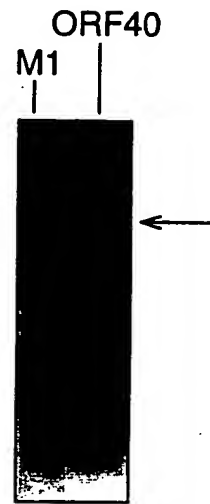


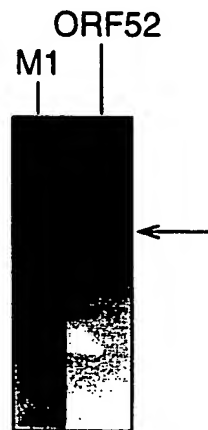
**FIG. 1A**

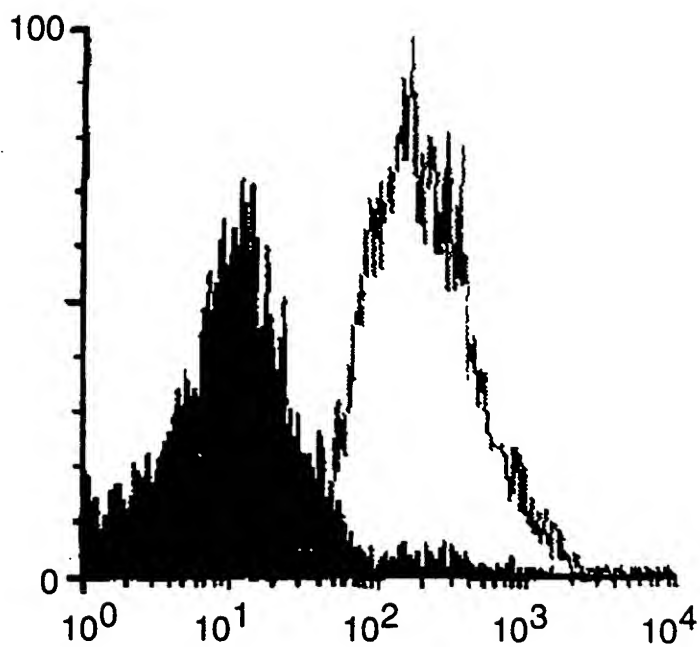


**FIG. 1B**

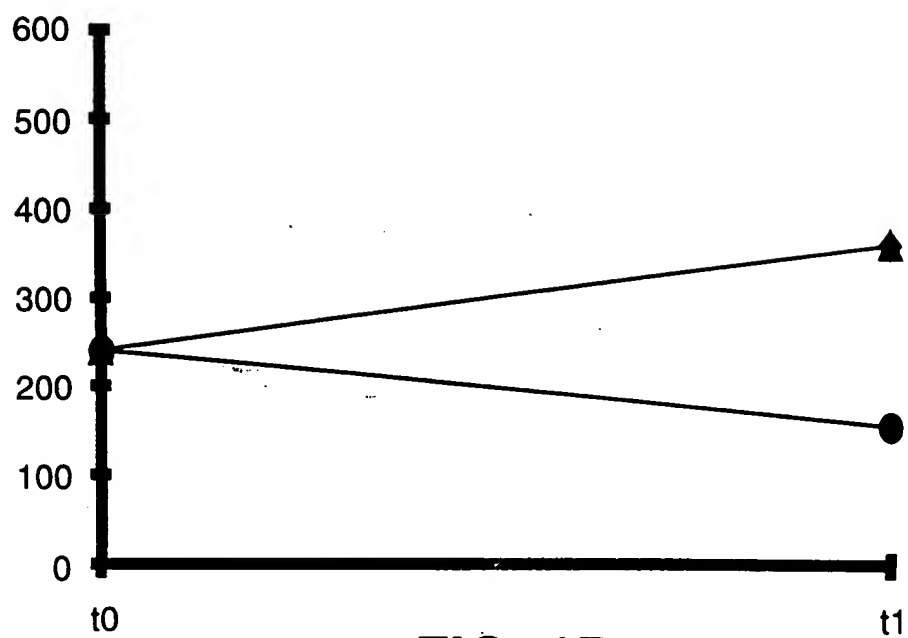


**FIG. 4A**

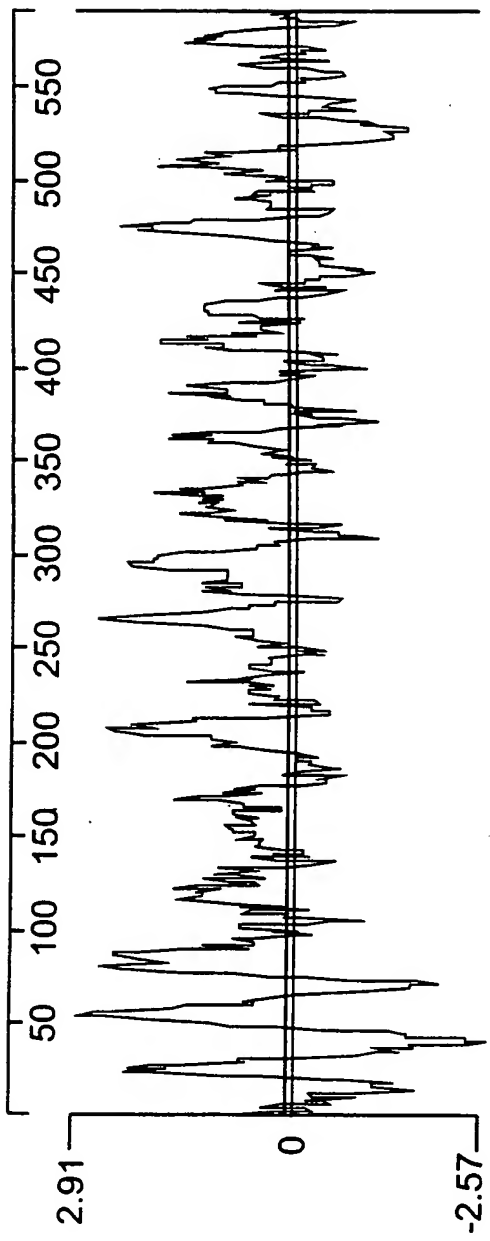




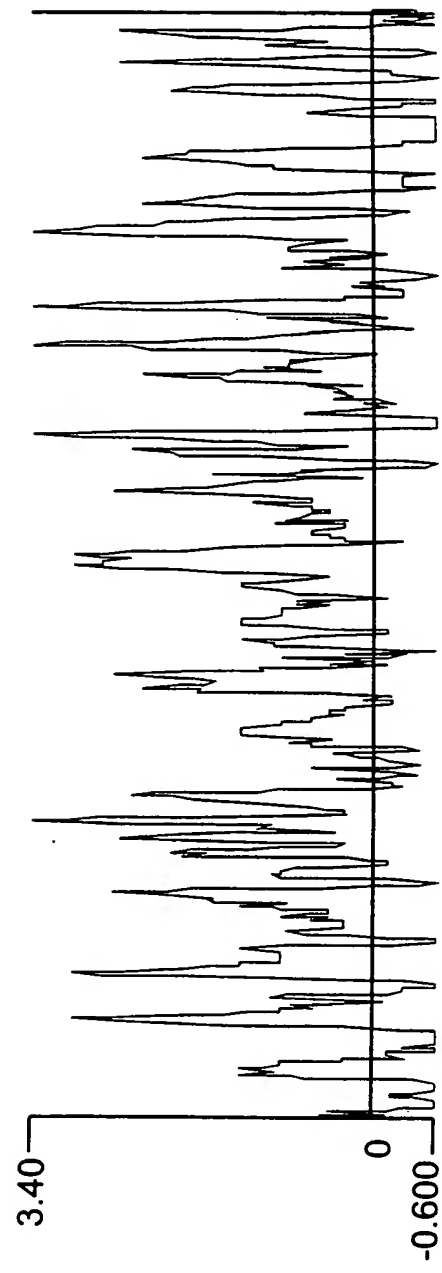
**FIG. 1C**



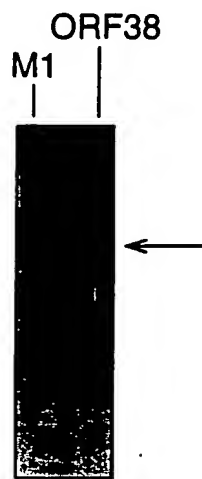
**FIG. 1D**



**FIG. 1E**



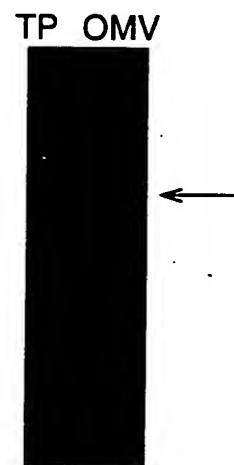
**FIG. 2A**



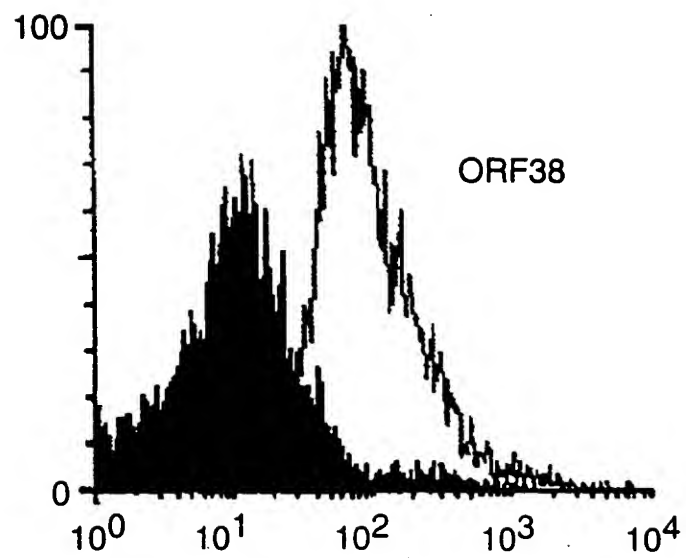
**FIG. 2B**

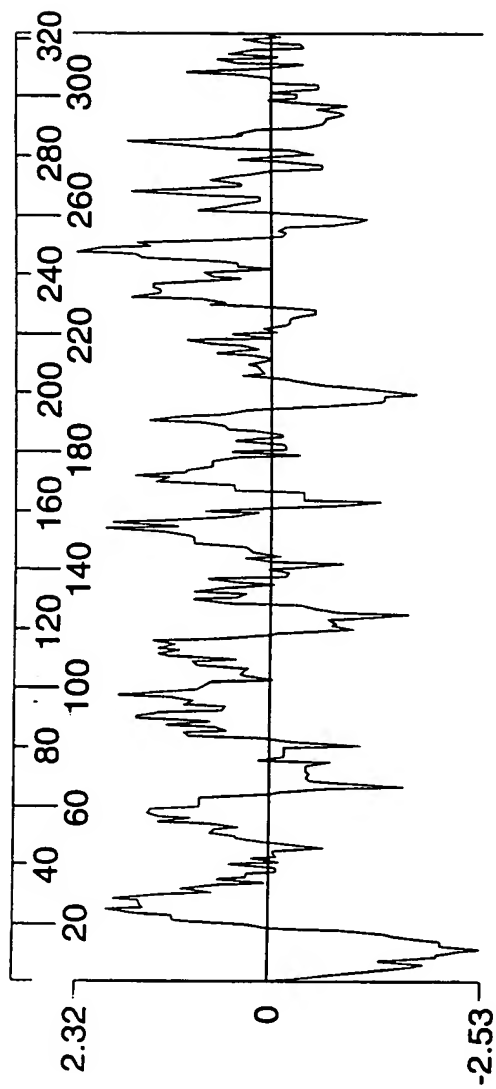


**FIG. 2C**

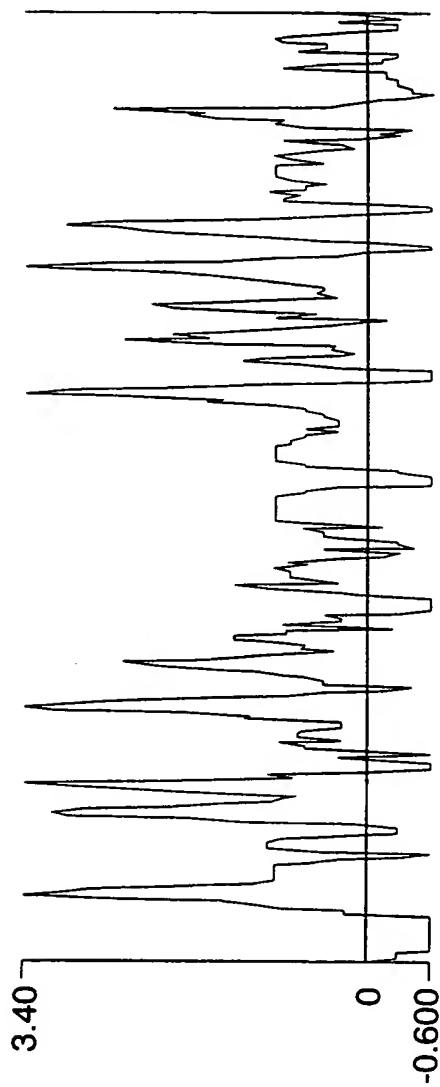


**FIG. 2D**





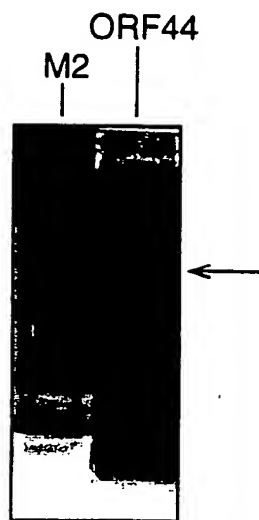
**FIG. 2E**



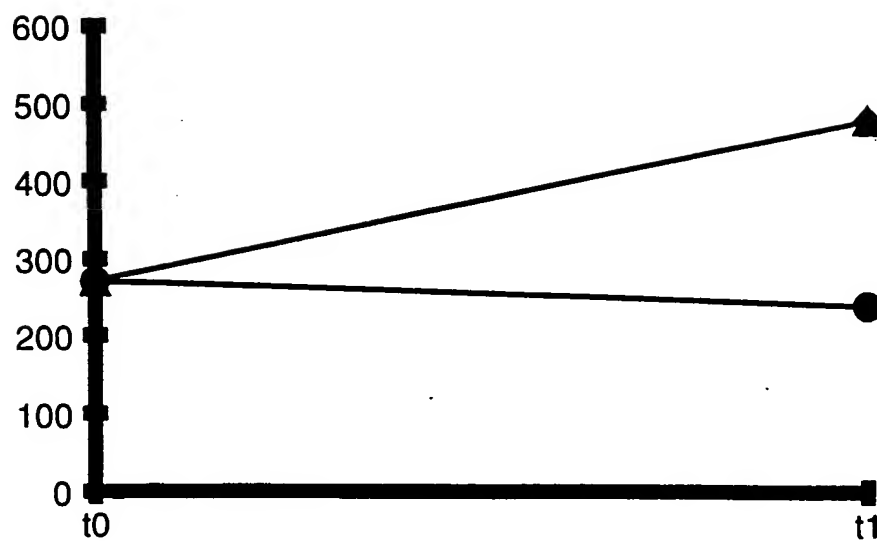
**FIG. 3A**

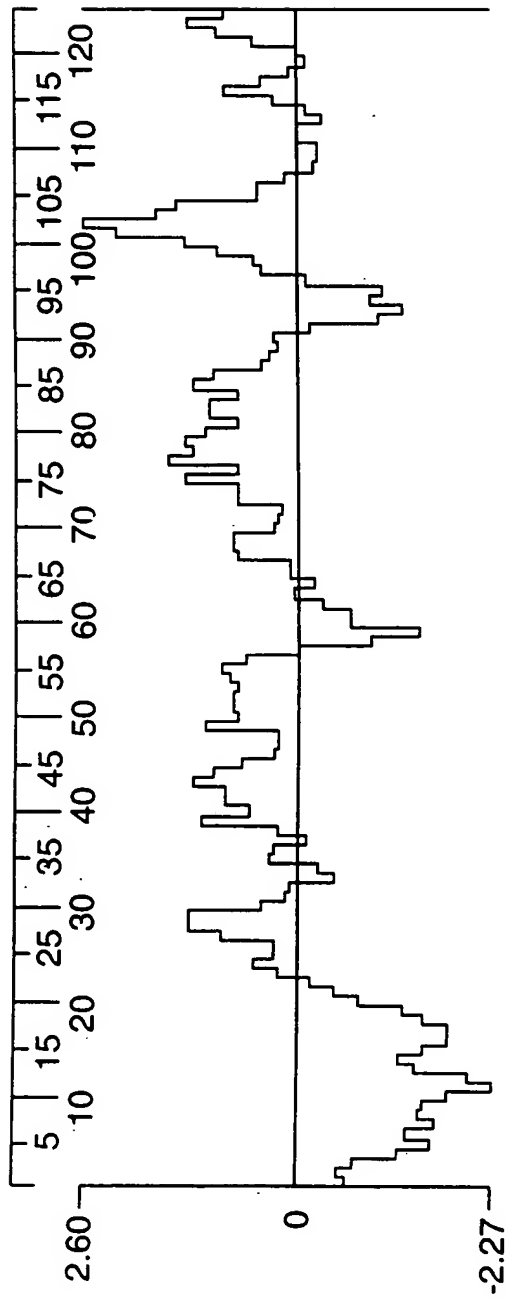


**FIG. 3B**

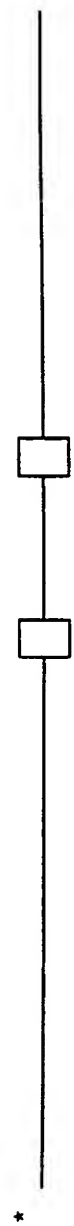
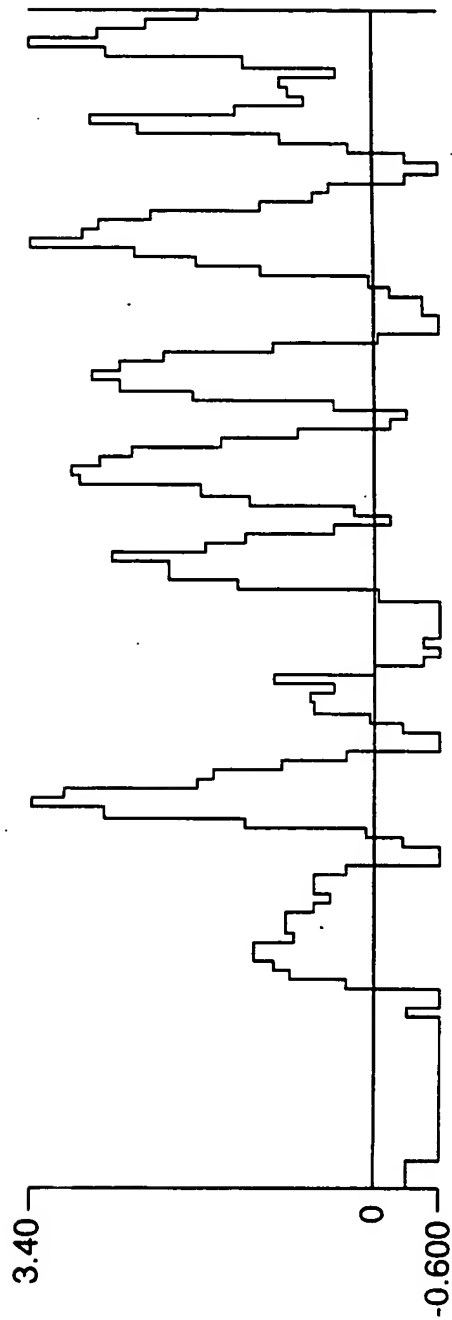


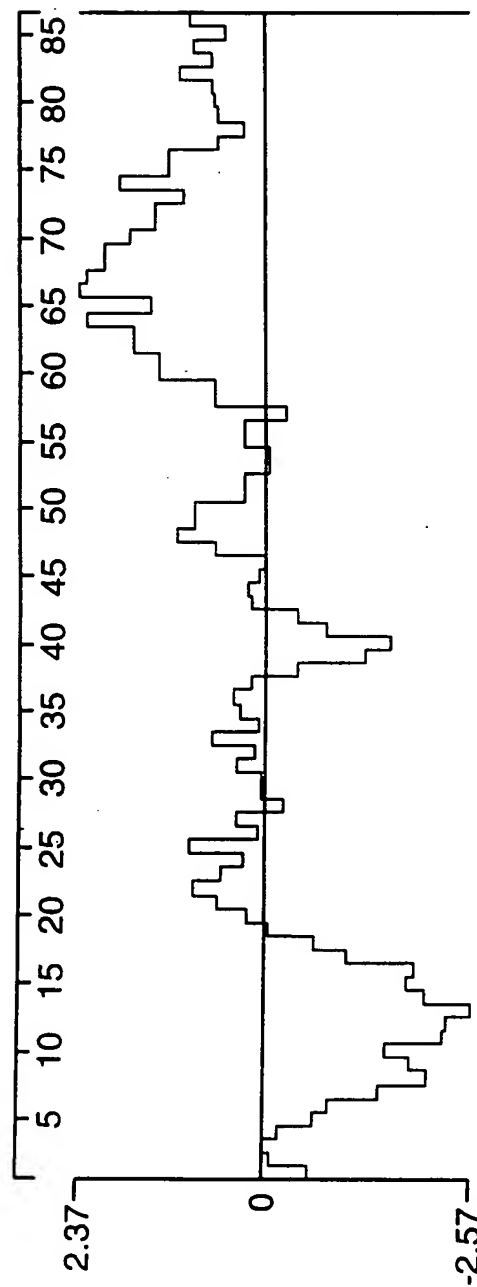
**FIG. 3C**



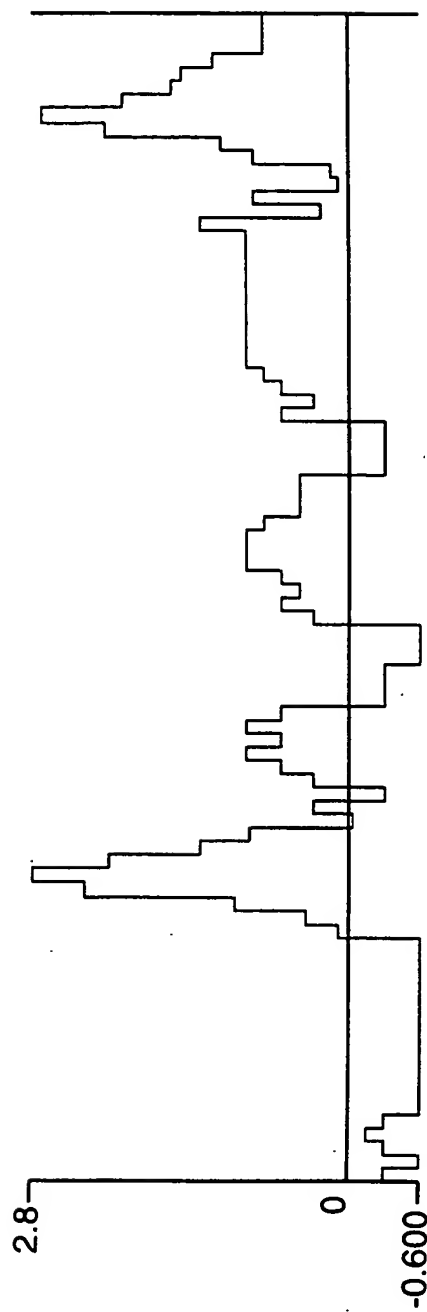


**FIG. 3D**

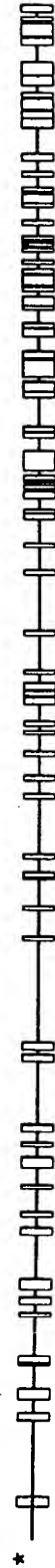




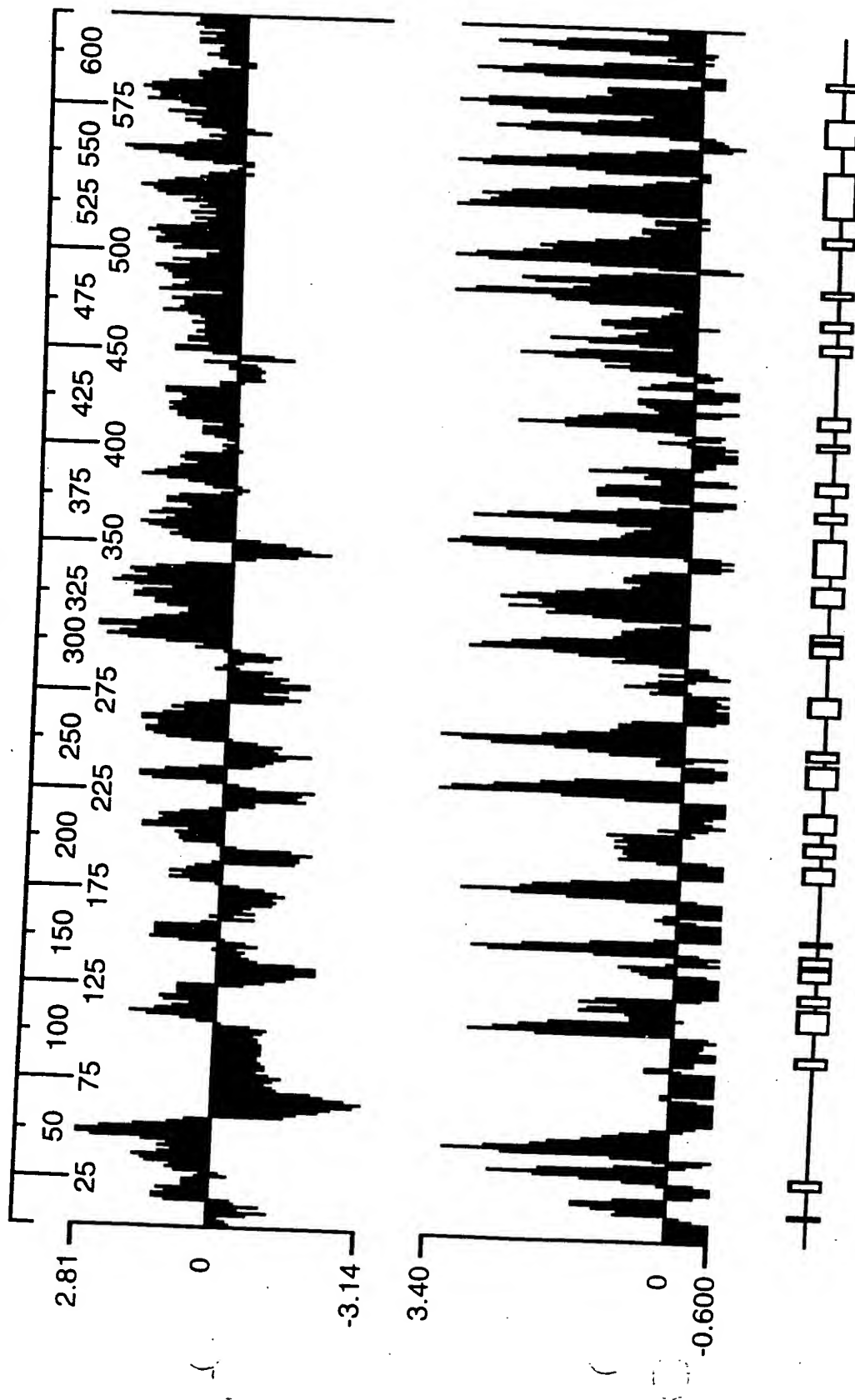
**FIG. 4B**



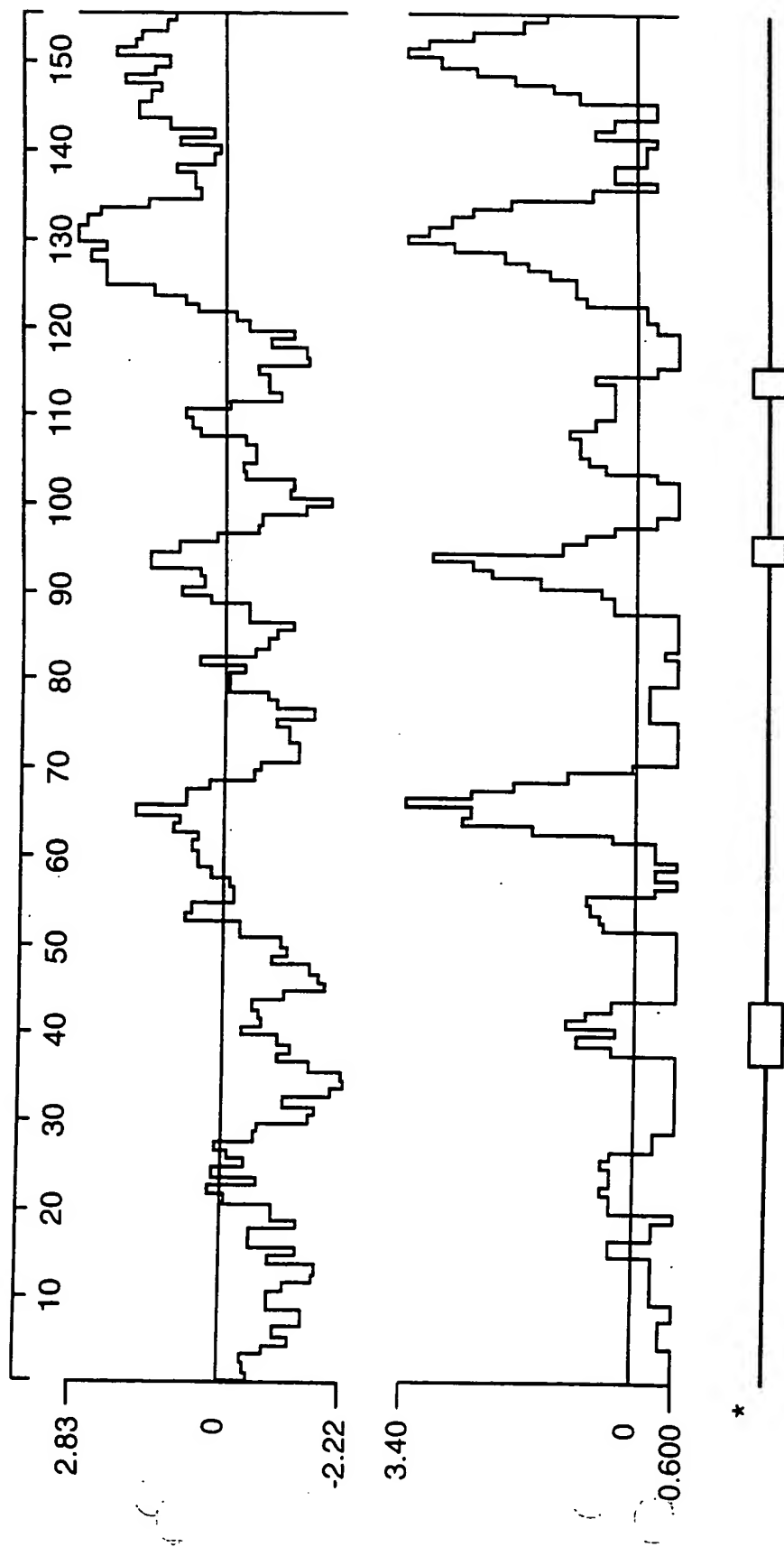




**FIG. 6**



**FIG. 7**



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zn07_1      1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLFATVQASANNEEQEEDL
zn20_1      1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLFATVQASANNEEQEEDL
zn21_1      1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLFATVQASANNEEQEEDL
zn06_1      1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLFATVQASANNEEQEEDL
zn19_1      1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLFATVQASANNEEQEEDL
zn03_1      1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLFATVQASTT..D.DDDL
zn18_1      1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLFATVQASTT..D.DDDL
zn11_ass    1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLFATVQASTT..D.DDDL
zn02_1      1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLFATVQANAT..D.DDDL
zn04_1      1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLFATVQANAT..D.DDDL
zn16_1      1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLFATVQANAT..D.DDDL
zn14_1      1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLFATVQANAT..DEDEEE
z2491      1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLFATVQANATDEDEEE.
zn10_1      1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLFATVQANATDEDEEE.
zn22_1      1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLFATVQANATDEDEEE.
zn23_1      1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLFATVQANATDEDEEE.
zn28_ass    1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLFATVQANATDEDEEE.
zn24_1      1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLSATVQANATDTDEEE.
zn25_ass    1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLSATVQANATDTDEEE.
zn08_1      1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLFATVQANATDTDEEE.
zn29_ass    1 MNKIYRIIWNSALNAWVVSELTRNHTKRASATVKTAVLATLLSATVQANATDEEDNE.

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zn07_1      61 YLEPVQRVAVLIVNSDKEGGEKEKVEENSDWAYNEKGVLTRETLKAGDNLKIKQ
zn20_1      61 YLEPVQRVAVLIVNSDKEGGEKEKVEENSDWAYNEKGVLTRETLKAGDNLKIKQ
zn21_1      61 YLEPVQRVAVLIVNSDKEGGEKEKVEENSDWAYNEKGVLTRETLKAGDNLKIKQ
zn06_1      61 YLEPVQRVAVLIVNSDKEGGEKEKVEENSDWAYNEKGVLTRETLKAGDNLKIKQ
zn19_1      61 YLEPVQRVAVLIVNSDKEGGEKEKVEENSDWAYNEKGVLTRETLKAGDNLKIKQ
zn03_1      58 YLEPVQRAPVLSFHADSEGGEKE.VTEDSNWG.YDKKGVLTGTTLKAGDNLKIKQ
zn18_1      58 YLEPVQRAPVLSFHADSEGGEKE.VTEDSNWG.YDKKGVLTGTTLKAGDNLKIKQ
zn11_ass    58 YLEPVQRAPVLSFHADSEGGEKE.VTEDSNWG.YDKKGVLTGTTLKAGDNLKIKQ
zn02_1      58 YLEPVQRAPVLSFRSDKEGGEKE.GTEDSNWA.YDEKRVLKGATLTKAGDNLKIKQ
zn04_1      58 YLEPVQRAPVLSFRSDKEGGEKE.GTEDSNWA.YDEKRVLKGATLTKAGDNLKIKQ
zn16_1      58 YLEPVQRAPVLSFRSDKEGGEKE.GTEDSNWA.YDEKRVLKGATLTKAGDNLKIKQ
zn14_1      59 ELEPVVRALVLQFMIDKEGNGEIESTG.DIGWS.YDDHNTLHATTLKAGDNLKIKQ
z2491      60 .LESVQR.VVGSIQASMEGGELETISLSMTND...SKEFVDPYIVTLKAGDNLKIKQ
zn10_1      60 .LESVQR.VVGSIQASMEGGELETISLSMTND...SKEFVDPYIVTLKAGDNLKIKQ
zn22_1      60 .LESVQR.VVGSIQASMEGGELETISLSMTND...SKEFVDPYIVTLKAGDNLKIKQ
zn23_1      60 .LESVQR.VVGSIQASMEGGELETISLSMTND...SKEFVDPYIVTLKAGDNLKIKQ
zn28_ass    60 .LESVQR.VVGSIQASMEGGELETISLSMTND...SKEFVDPYIVTLKAGDNLKIKQ
zn24_1      60 .LESVVRALVLQFMIDKEGNGEIESTG.DIGWS.YDDHNTLHATTLKAGDNLKIKQ
zn25_ass    60 .LESVVRALVLQFMIDKEGNGEIESTG.DIGWS.YDDHNTLHATTLKAGDNLKIKQ
zn08_1      60 .LEPVVRALVLQFMIDKEGNGEIESTG.DIGWS.YDDHNTLHATTLKAGDNLKIKQ
zn29_ass    60 .LEPVVRAPVLSFHSDKEGGEKEVEGASSNLT.YDKNRVLKGTTLKAGDNLKIKQ

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zn07_1      121 .....NFTYSLKKDLTDLTSGTEKLSFSANGNKVNITSDTKGLNFAKETAG
zn20_1      121 .....NFTYSLKKDLTDLTSGTEKLSFSANGNKVNITSDTKGLNFAKETAG
zn21_1      121 .....NFTYSLKKDLTDLTSGTEKLSFSANGNKVNITSDTKGLNFAKETAG
zn06_1      121 .....NFTYSLKKDLTDLTSGTEKLSFSANGNKVNITSDTKGLNFAKETAG
zn19_1      121 .....NFTYSLKKDLTDLTSGTEKLSFSANGNKVNITSDTKGLNFAKETAG
zn03_1      117 ....NTDENTNFTYSLKKDLTDLTSVETEKLSFGANGKKNVITSDTKGLNFAKETAG
zn18_1      117 ....NTDENTNFTYSLKKDLTDLTSVETEKLSFGANGKKNVITSDTKGLNFAKETAG
zn11_ass    117 ....NTDENTNFTYSLKKDLTDLTSVETEKLSFGANGKKNVITSDTKGLNFAKETAG
zn02_1      117 ....NTNENTNDFTYSLKKDLTDLTSVETEKLSFGANGKKNVITSDTKGLNFAKETAG
zn04_1      117 ....NTNENTNDFTYSLKKDLTDLTSVETEKLSFGANGKKNVITSDTKGLNFAKETAG
zn16_1      117 NTNENTNENTNDFTYSLKKDLTDLTSVETEKLSFGANGKKNVITSDTKGLNFAKETAG
zn14_1      118 NTNKNTNENTNDFTYSLKKDLTDLTSVETEKLSFGANGKKNVITSDTKGLNFAKETAG
z2491      115 ....NTNENTNFTYSLKKDLTGLINVETEKLSFGANGKKNVITSDTKGLNFAKETAG
zn10_1      115 ....NTNENTNFTYSLKKDLTGLINVETEKLSFGANGKKNVITSDTKGLNFAKETAG
zn22_1      115 ....NTNENTNFTYSLKKDLTGLINVETEKLSFGANGKKNVITSDTKGLNFAKETAG
zn23_1      115 ....NTNENTNFTYSLKKDLTGLINVETEKLSFGANGKKNVITSDTKGLNFAKETAG
zn28_ass    115 ....NTNENTNFTYSLKKDLTGLINVETEKLSFGANGKKNVITSDTKGLNFAKETAG
zn24_1      118 .....SKDFTYSLKKDLTDLTSVETEKLSFGANGKKNVITSDTKGLNFAKETAG
zn25_ass    118 .....SKDFTYSLKKDLTDLTSVETEKLSFGANGKKNVITSDTKGLNFAKETAG
zn08_1      118 ....NTDENTNFTYSLKKDLTDLTSVCTELSFGANGKKNVITSDTKGLNFAKETAG
zn29_ass    119 NTNENTNENTNFTYSLKKDLTGLINVETEKLSFGANGKKNVITSDTKGLNFAKETAG

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FIG. 8A

|          |     |      |                |      |    |        |     |    |           |              |     |
|----------|-----|------|----------------|------|----|--------|-----|----|-----------|--------------|-----|
| zn07_1   | 171 | TNGD | TTVHLNGIGSTLTD | TLLN | GA | TNV    | TND | VT | DDEKKRAAS | KDVLNAGWNIKG | VKE |
| zn20_1   | 171 | TNGD | TTVHLNGIGSTLTD | TLLN | GA | TNV    | TND | VT | DDEKKRAAS | KDVLNAGWNIKG | VKE |
| zn21_1   | 171 | TNGD | TTVHLNGIGSTLTD | TLLN | GA | TNV    | TND | VT | DDEKKRAAS | KDVLNAGWNIKG | VKE |
| zn06_1   | 171 | TNGD | TTVHLNGIGSTLTD | TLLN | GA | TNV    | TND | VT | DDEKKRAAS | KDVLNAGWNIKG | VKE |
| zn19_1   | 171 | TNGD | TTVHLNGIGSTLTD | TLLN | GA | TNV    | TND | VT | DDEKKRAAS | KDVLNAGWNIKG | VKE |
| zn03_1   | 173 | TNGD | TTVHLNGIGSTLTD | TLLN | GA | TNV    | TND | VT | DDEKKRAAS | KDVLNAGWNIKG | VKE |
| zn18_1   | 173 | TNGD | TTVHLNGIGSTLTD | TLLN | GA | TNV    | TND | VT | DDEKKRAAS | KDVLNAGWNIKG | VKE |
| zn11_ass | 173 | TNGD | TTVHLNGIGSTLTD | TLLN | GA | TNV    | TND | VT | DDEKKRAAS | KDVLNAGWNIKG | VKE |
| zn02_1   | 173 | TNGD | TTVHLNGIGSTLTD | TLLN | GA | TNV    | TND | VT | DDEKKRAAS | KDVLNAGWNIKG | VKE |
| zn04_1   | 173 | TNGD | TTVHLNGIGSTLTD | TLLN | GA | TNV    | TND | VT | DDEKKRAAS | KDVLNAGWNIKG | VKE |
| zn16_1   | 177 | TNGD | TTVHLNGIGSTLTD | TLLN | GA | TNV    | TND | VT | DDEKKRAAS | KDVLNAGWNIKG | VKE |
| zn14_1   | 178 | TNGD | TTVHLNGIGSTLTD | TLLN | GA | TNV    | TND | VT | DDEKKRAAS | KDVLNAGWNIKG | VKE |
| z2491    | 171 | TNGD | TTVHLNGIGSTLTD | TLAG | SA | HVDAGN | ST  | .  | HYTRAAS   | KDVLNAGWNIKG | VKT |
| zn10_1   | 171 | TNGD | TTVHLNGIGSTLTD | TLAG | SA | HVDAGN | ST  | .  | HYTRAAS   | KDVLNAGWNIKG | VKT |
| zn22_1   | 171 | TNGD | TTVHLNGIGSTLTD | TLAG | SA | HVDAGN | ST  | .  | HYTRAAS   | KDVLNAGWNIKG | VKT |
| zn23_1   | 171 | TNGD | TTVHLNGIGSTLTD | TLAG | SA | HVDAGN | ST  | .  | HYTRAAS   | KDVLNAGWNIKG | VKT |
| zn28_ass | 171 | TNGD | TTVHLNGIGSTLTD | TLLN | GA | TNV    | TND | VT | DDEKKRAAS | KDVLNAGWNIKG | VKE |
| zn24_1   | 168 | TNGD | TTVHLNGIGSTLTD | TLAG | SA | HVDAGN | ST  | .  | HYTRAAS   | KDVLNAGWNIKG | VKT |
| zn25_ass | 168 | TNGD | TTVHLNGIGSTLTD | TLAG | SA | HVDAGN | ST  | .  | HYTRAAS   | KDVLNAGWNIKG | VKT |
| zn08_1   | 174 | TNGD | TTVHLNGIGSTLTD | TLAG | SA | HVDAGN | ST  | .  | HYTRAAS   | KDVLNAGWNIKG | VKT |
| zn29_ass | 179 | TNGD | TTVHLNGIGSTLTD | TLAG | SA | HVDAGN | ST  | .  | HYTRAAS   | KDVLNAGWNIKG | VKT |

|          |     |         |           |           |         |          |            |          |
|----------|-----|---------|-----------|-----------|---------|----------|------------|----------|
| zn07_1   | 231 | G-TA..S | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn20_1   | 231 | G-TA..S | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn21_1   | 231 | G-TA..S | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn06_1   | 231 | G-TA..S | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn19_1   | 231 | G-TA..S | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn03_1   | 233 | G-TA..S | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn18_1   | 233 | G-TA..S | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn11_ass | 233 | G-TA..S | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn02_1   | 233 | G-TA..S | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn04_1   | 233 | G-TA..S | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn16_1   | 237 | G-TA..S | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn14_1   | 238 | G-TA..S | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| z2491    | 229 | G-TTGS  | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn10_1   | 229 | G-TTGS  | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn22_1   | 229 | G-TTGS  | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn23_1   | 229 | G-TTGS  | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn28_ass | 231 | G-TA..S | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn24_1   | 226 | G-TTGS  | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn25_ass | 226 | G-TTGS  | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn08_1   | 232 | G-TTGS  | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |
| zn29_ass | 237 | G-TTGS  | NVDFVRTYD | TVEFLSADT | KTTTTVN | VESKDNGK | TEVKIGAKTS | VIKEKDGL |

|           |     |       |         |                             |                     |       |
|-----------|-----|-------|---------|-----------------------------|---------------------|-------|
| zn07_1    | 289 | VTGKD | KGNGSS  | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTNV |
| zn20_1    | 289 | VTGKD | KGNGSS  | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTNV |
| zn21_1    | 289 | VTGKD | KGNGSS  | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTNV |
| zn06_1    | 289 | VTGKD | KGNGSS  | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTNV |
| zn19_1    | 289 | VTGKD | KGNGSS  | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTNV |
| zn03_1    | 291 | VTGKD | KGNGSS  | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTKV |
| zn18_1    | 291 | VTGKD | KGNGSS  | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTKV |
| zn11_ass  | 291 | VTGKD | KGNGSS  | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTKV |
| zn02_1    | 291 | VTGKG | KDENGSS | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTNV |
| zn04_1    | 291 | VTGKG | KDENGSS | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTNV |
| zn16_1    | 295 | VTGKG | KDENGSS | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTKV |
| zn14_1    | 296 | VTGKG | KGNGSS  | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTNV |
| z2491     | 289 | VTGKG | KGNGSS  | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTNV |
| zn10_1    | 289 | VTGKG | KGNGSS  | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTNV |
| zn22_1    | 289 | VTGKG | KGNGSS  | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTNV |
| zn23_1    | 289 | VTGKG | KGNGSS  | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTNV |
| zn28_ass  | 289 | VTGKG | KGNGSS  | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTNV |
| zn24_1    | 286 | VTGKG | KGNGSS  | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTKV |
| zn25_ass  | 286 | VTGKG | KGNGSS  | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTKV |
| zn08_1    | 292 | VTGKG | KGNGSS  | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTNV |
| zn29_ ass | 297 | VTGKG | KGNGSS  | STDEGEGLVTAKEVIDAVNKAGWRMKT | TTTANGQTGQADKFETVTS | SGTKV |

**FIG. 8B**

|          |     |          |                   |                    |                   |
|----------|-----|----------|-------------------|--------------------|-------------------|
| zn07_1   | 349 | TFASGKGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn20_1   | 349 | TFASGKGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn21_1   | 349 | TFASGKGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn06_1   | 349 | TFASGKGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn19_1   | 349 | TFASGKGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn03_1   | 351 | TFASGNGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn18_1   | 351 | TFASGNGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn11_ass | 351 | TFASGNGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn02_1   | 351 | TFASGKGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn04_1   | 351 | TFASGKGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn16_1   | 355 | TFASGNGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn14_1   | 356 | TFASGKGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| z2491    | 349 | TFASGKGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn10_1   | 349 | TFASGKGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn22_1   | 349 | TFASGKGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn23_1   | 349 | TFASGKGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn28_ass | 349 | TFASGKGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn24_1   | 346 | TFASGNGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn25_ass | 346 | TFASGNGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn08_1   | 352 | TFASGKGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |
| zn29_ass | 357 | TFASGNGT | TATVSKDDQGNITVMYD | VNVGDALNVNQLQNSGWN | LDSKAVAGSSGKVISGN |

|          |     |           |       |                   |                       |        |   |
|----------|-----|-----------|-------|-------------------|-----------------------|--------|---|
| zn07_1   | 409 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn20_1   | 409 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn21_1   | 409 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn06_1   | 409 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn19_1   | 409 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn03_1   | 411 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn18_1   | 411 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn11_ass | 411 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn02_1   | 411 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn04_1   | 411 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn16_1   | 415 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn14_1   | 416 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| z2491    | 409 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn10_1   | 409 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn22_1   | 409 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn23_1   | 409 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn28_ass | 409 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn24_1   | 406 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn25_ass | 406 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn08_1   | 412 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |
| zn29_ass | 417 | VSPSKGKMD | ETVNI | NAGNNIEITRNGKNIDI | ATSMTPQFSSVSLGAGADAPT | LSVDDG | A |

|          |     |         |           |              |                 |                    |
|----------|-----|---------|-----------|--------------|-----------------|--------------------|
| zn07_1   | 468 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn20_1   | 468 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn21_1   | 468 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn06_1   | 468 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn19_1   | 468 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn03_1   | 471 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn18_1   | 471 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn11_ass | 471 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn02_1   | 471 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn04_1   | 471 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn16_1   | 475 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn14_1   | 476 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| z2491    | 469 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn10_1   | 469 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn22_1   | 469 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn23_1   | 469 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn28_ass | 469 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn24_1   | 466 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn25_ass | 466 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn08_1   | 472 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |
| zn29_ass | 477 | LNVGSKD | ANKPVRITN | VAPGVKEGDVTN | VQAQLKGVAQNLNNR | IDNVDGNARAGIAQAIAT |

FIG. 8C

|          |     |   |
|----------|-----|---|
| zn07_1   | 528 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn20_1   | 528 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn21_1   | 528 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn06_1   | 528 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn19_1   | 528 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn03_1   | 531 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn18_1   | 531 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn11_ass | 531 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn02_1   | 531 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn04_1   | 531 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn16_1   | 535 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn14_1   | 536 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| z2491    | 529 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn10_1   | 529 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn22_1   | 529 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn23_1   | 529 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn28_ass | 529 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn24_1   | 526 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn25_ass | 526 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn08_1   | 532 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |
| zn29_ass | 537 | AGLVQAYLPGKSMMMAIGGGTYRGEAGYAIGYSSISDGGNWIIKGTASGNSRGHFGASASV |

|          |     |       |
|----------|-----|-------|
| zn07_1   | 588 | GYQW* |
| zn20_1   | 588 | GYQW* |
| zn21_1   | 588 | GYQW* |
| zn06_1   | 588 | GYQW* |
| zn19_1   | 588 | GYQW* |
| zn03_1   | 591 | GYQW* |
| zn18_1   | 591 | GYQW* |
| zn11_ass | 591 | GYQW* |
| zn02_1   | 591 | GYQW* |
| zn04_1   | 591 | GYQW* |
| zn16_1   | 595 | GYQW* |
| zn14_1   | 596 | GYQW* |
| z2491    | 589 | GYQW* |
| zn10_1   | 589 | GYQW* |
| zn22_1   | 589 | GYQW* |
| zn23_1   | 589 | GYQW* |
| zn28_ass | 589 | GYQW* |
| zn24_1   | 586 | GYQW* |
| zn25_ass | 586 | GYQW* |
| zn08_1   | 592 | GYQW* |
| zn29_ass | 597 | GYQW* |

FIG. 8D